

DUVAL CORPORATION #18 STATE-40 NO PERMIT
NW NW Sec. 10-T18N-R25E APACHE COUNTY

P-W

County Apache

Area Holbrook Basin

Lease No. _____

Well Name Duval Corporation #18 State

Location NW NW Sec 10 Twp 18N Range 25E Footage 660' FNL - 660' FWL
Elev 5520' Gr _____ KB Date 2-5-64 Spud 2-5-64 ~~Completed~~ Abandon 2-12-64 Total 1433* Depth 1431'

Contractor _____ ** per Duval sheet*

Casing Size 4-1/2" Depth 1014' Cement _____

Drilled by Rotary _____
Cable Tool _____

Production Horizon _____

Initial Production _____

REMARKS This hole drilled as a potash test.

See file # for Core Lithology. (Footage 1016-1130')

Elec (2)
Logs Radioactivity Log;
Applic. Plugging Completion
to Plug _____ Record x Report x

Sample Log _____
Sample Descript. _____
Sample Set P-1323
Core Analysis _____
DSTs _____

Water well accepted by _____

Bond Co. & No. None

Bond Am't \$ _____ Cancelled _____ Date _____ Organization Report None

Filing Receipt None Dated _____ Well Book x Plat Book x

API No. 02-001-05038 Loc. Plat _____ Dedication None (Strat)

Permit Number None Date Issued _____

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WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG																	
DESIGNATE TYPE OF COMPLETION:																	
New Well	<input checked="" type="checkbox"/>	Work-Over	<input type="checkbox"/>	Deepen	<input type="checkbox"/>	Plug Back	<input type="checkbox"/>	Same Reservoir	<input type="checkbox"/>	Different Reservoir	<input type="checkbox"/>	Oil	<input type="checkbox"/>	Gas	<input type="checkbox"/>	Dry	<input type="checkbox"/>
DESCRIPTION OF WELL AND LEASE																	
Operator DUVAL CORPORATION					Address 4715 E. FT. LOWELL RD, TUCSON, ARIZ												
Lease Name					Well Number 18		Field & Reservoir										
Location 4620' NORTH & 460' EAST OF S.W. COR SEC 10 T18N, R 25E																	
Sec.—TWP-Range or Block & Survey																	
County APACHE		Permit number		Date Issued		Previous permit number		Date Issued									
Date spudded 2-5-64		Date total depth reached 2-12-64		Date completed, ready to produce 2/12/64		Elevation (DF, RKB, RT or Gr.) feet		Elevation of casing hd. Range feet									
Total depth 1431		P.B.T.D.		Single, dual or triple completion?			If this is a dual or triple completion, furnish separate report for each completion.										
Producing interval (s) for this completion					Rotary tools used (interval)			Cable tools used (interval)									
Was this well directionally drilled?			Was directional survey made?			Was copy of directional survey filed?		Date filed									
Type of electrical or other logs run (check logs filed with the commission) RADIOACTIVITY LOG								Date filed									
CASING RECORD																	
Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)																	
Purpose		Size hole drilled		Size casing set		Weight (lb./ft.)		Depth set		Sacks cement		Amt. pulled					
TUBING RECORD				LINER RECORD													
Size in.		Depth set ft.		Packer set at ft.		Size in.		Top ft.		Bottom ft.		Sacks cement		Screen (ft.)			
PERFORATION RECORD								ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD									
Number per ft.		Size & type		Depth Interval				Am't. & kind of material used				Depth Interval					
INITIAL PRODUCTION																	
Date of first production					Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)												
Date of test		Hrs. tested		Choke size		Oil prod. during test bbls.		Gas prod. during test MCF		Water prod. during test bbls.		Oil gravity ° API (Corr)					
Tubing pressure		Casing pressure		Cal'ed rate of Production per 24 hrs.		Oil bbls.		Gas MCF		Water bbls.		Gas—oil ratio					
Disposition of gas (state whether vented, used for fuel or sold):																	
<p>CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the.....of the.....(company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.</p> <p>.....Date.....Signature.....</p>																	
										STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Well Completion or Recompletion Report and Well Log Form No. P-7 File two copies							

<u>Hole No.</u>	<u>Interval (feet)</u>	<u>Formation or Member</u>
17A	Ground elevation 6100'	
	0-530	Bidahochi
	530-	Lower Petrified Forest
	652	Top of greenish-grey unit
	992-1111	Lower Wupatki
	1111-1340	Coconino
	1340-	Supai
	1432-	Top of 1st marker
		Anhydrite
	5520 - see Drivel 2-28-64	
18	Ground elevation 5220'	
	0-	Lower Petrified Forest
	65-	Top of greenish-grey unit
	340 (graditional)	Shinarump
	412-578	Lower Wupatki
	578-925	Coconino
	925-	Supai
	1012	Top of 1st marker
		Anhydrite
19	Ground elevation 6120'	
	0-125	(No samples)
	-300	Bidahochi
	300-	Upper Petrified Forest
	907-	Lower Petrified Forest
	1122-	Top of greenish-grey unit
	1385-	Shinarump
	1455-1604	Lower Wupatki
	1604-1880	Coconino
	1880-	Supai
	1953	Top of 1st marker
		Anhydrite
20	Ground elevation 5705'	
	0-	Upper Petrified Forest
	108-	Lower Petrified Forest
	405-	Top of greenish-grey unit
	675-	Shinarump
	705-833	Lower Wupatki
	833-1080	Coconino
	1080-	Supai
	1259	Top of 1st marker
		Anhydrite

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[illegible]

FORM 159

DUVAL CORPORATION
INTER-OFFICE MEMORANDUM

FROM NAVAJO, ARIZONA
TO ESPERANZA, ARIZONA

DATE February 28, 1964
ATTENTION B.G. MESSER

SUBJECT: DUAL # 18 ~~State~~ State

LOCATION: 660 FWL, 4620 FSL, S. 10, T. 18N., R. 25 E.

DATE STARTED: February 5, 1964

DATE COMPLETED: February 12, 1964

ELEVATION, G.L.: 5520

T.O.: 1431

CASING: 1014

ELEVATION TOP COCONINO: 4982

ELEVATION TOP HALITE: 4469

ELEVATION TOP SYLVITE: 1127 (?)

5520
4469
1051

Form 3
2M Sheets 5-54

DUVAL SULPHUR & POTASH COMPANY
POTASH DIVISION
CARLSBAD, NEW MEXICO

WHILE WE BELIEVE THIS INFORMATION TO BE
CORRECT. WE MAKE NO REPRESENTATION WITH
RESPECT TO. NOR DO WE ASSUME ANY RESPONSIBILITY
FOR, THE CORRECTNESS THEREOF.

DUVAL CORPORATION

CORE LITHOLOGY

WELL NO. 18

DEPTH (Feet)		INTERVAL		ESTIM. %		DESCRIPTION
From	To	Feet	Shale	P		
						Abbreviations: H - Halite Gyp. - Gypsum
						A - Anhydrite C-S. - Clay-Silt
						P - Polyhalite med. g. - medium grained
						S - Sylvite clr. - clear
						C - Carnallite Occ. - occasional
						f.g. - finegrained V. - Very
						c.g. - coarse grained incr. - increasing
						incl. - inclusions decr. - decreasing
						irreg - irregular brn. - brown
1016 0	1027 3	11 3	-	100		A, light to med. gray, banded; 10% brn. C-S. in bottom 0.1'.
1027 3	1031 6	4 3	90	10		C-S., brn., med. hard; 0.1' white A bands at 1027.5' & 1029.3', 0.3' zone 30% white A at 1030.6'.
1031 6	1033 9	2 3	25	75		A, lt. gray; some brn. C-S. below 1032.1'.
1033 9	1038 8	4 9	99	1		C-S., brn., med. soft; few med. white A blebs in upper foot.
1038 8	1042 7	3 9	-	100		A, lt. to med. gray.
1042 7	1050 3	7 6	98	2		C-S., brn., med. soft; 0.5' zone of 30% A at 1043.7', few small white A stringers in bottom foot.
1050 3	1050 6	0 3	-	100		A, white.
1050 6						Top of Salt.
1050 6	1051 8	1 2	4	-		H, f.g. to med.; few small to med. brn. C-S. incls., 1/2" band at top.
1051 8	1052 6	0 8	1	1		H, clr., med. to c.g.; occ. small brn. C-S. incl; few small white A blebs in bottom 0.1'.
1052 6	1053 05	0 45	5	1		H, med. to c.g.; few med. brn. C-S. incls.; occ. V. small white A bleb.
1053 05	1053 30	0 25	3	2		H, med. to c.g., few irreg. brn. C-S. stringers; few small to med. white A blebs; occ. small milky S bleb. Est. K ₂ O/S = 1%.

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 18

CORE LITHOLOGY

PAGE NO. 2

DEPTH (Feet)		INTERVAL		ESTIM. %		DESCRIPTION
From	To	Feet	Shale	KA		
1053 30	1053 85	0 55	1	5		H, clr., med. to c.g.; some irreg. large milky S blebs; few med. tan A/P stringers; V. few small brn. C-S. incls. Est. K ₂ O/S = 15%.
1053 85	1054 50	0 65	-	2		H, clr., med.; few irreg. med. milky S blebs; occ. small white-pink A/P bleb. Est. K ₂ O/S = 4%
1054 50	1055 70	1 20	-	1		H, clr., med.; some med. milky S blebs in lower 0.7'; occ. V. small pink A/P bleb. Est. K ₂ O/S = 8%.
1055 70	1056 40	0 70	7	-		H, f.g.; some small brn. C-S. incl.; occ. med. red S bleb. Est. K ₂ O/S = 1%.
1056 40	1061 0	4 6	10	1		H, med.; some med. to large soft brn. C-S. incls. & stringers; occ. small white A bleb in lower half.
1061 0	1066 5	5 5	4	-		H, clr., c.g.; some small to large med. soft brn. C-S. incls., grading out down; occ. small white A bleb.
1066 5	1071 8	5 3	1	1		H, clr., c.g.; occ. large soft white A (?) incl. in upper foot; few small white A stringers in bottom 1.2'; occ. irreg. small to med. C-S. incl.
1071 8	1075 8	4 0	90	1		C-S., brn., hard; few irreg. H, f.g., zones; $\frac{1}{4}$ " white A band at top, occ. white A bleb.
1075 8	1078 3	2 5	10	1		H, f.g. to med.; some V. irreg. small to V. large hard, red-brn. C-S. incls.; occ. small white A bleb.
1078 3	1083 2	4 9	3	2		H, clr., med. to c.g.; few small soft to med. hard C-S. incls., grading in down; some small white A blebs in upper half.
1083 2	1086 2	3 0	-	2		H, V. clr., V. c.g.; few irreg. white to pink A stringers.
1086 2	1089 0	2 8	45	-		H, f.g. to med., partly as vert. veinlets, & C-S., brn., soft, decreases down from 70% at top to 20% at base.
1089 0	1091 2	2 2	3	-		H, med.; few small brn., occ. gray, C-S. incls.
1091 2	1094 5	3 2	2	1		H, clr., c.g.; V. few small to med. brn. C-S. incls.; occ. small white A bleb in upper half.

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 18

CORE LITHOLOGY

PAGE NO. 3

DEPTH (Feet)		INTERVAL		ESTIM. %		DESCRIPTION
From	To	Feet	Shale	KA		
1094 5	1097 1	2 6	1	3		H, clr., med. to c.g.; few thin A stringers & blebs; occ. small brn. C-S. incl.
1097 1	1098 1	1 0	3	8		H, med. to c.g.; some med. A stringers; few small brn. C-S. incl.
1098 1	1099 3	1 2	1	1		H, clr., med. to c.g.; few V. small pink A/P blebs, occ. red-brn. C-S. incl.
1099 3	1100 3	1 0	-	80		A, lt. gray; some H, med. intergrowths in top 0.7'.
1100 3	1101 5	1 2	90	-		C-S. brn., top 0.2' gray, med. soft; some irreg. H, f.g., stringers in middle third.
1101 5	1105 0	3 5	3	1		H, med.; few med. brn. C-S. stringers; few med. white A stringers in bottom 0.7'.
1105 0	1105 8	0 8	30	-		H, med. & C-S. brn., soft, irreg. (core broken)
1105 8	1107 0	1 2	4	10		H, clr., med.; 1/2" white A zones at top, middle & base; few small to med. soft brn. C-S. incl.
1107 0	1109 0	2 0	-	3		H, clr. c.g.; few irreg. med. white A stringers; occ. small brn. C-S. incl. in upper two-thirds.
1109 0	1109 6	0 6	-	70		A/P tan; some irreg. H, clr., med. zones.
1109 6	1112 9	3 3	4	4		H, c.g.; few irreg. brn. C-S. incl. & white A stringers.
1112 9	1116 8	3 9	1	1		H, V. clr., V. c.g.; V. few med. white A stringers & irreg. med. soft brn. C-S. incl.
1116 8	1119 5	2 7	-	-		H, V. clr., med. to c.g.
1119 5	1119 8	0 3	-	60		A, lt. gray-tan & H, clr., f.g., irreg.
1119 8	1120 5	0 7	-	3		H, clr., med.; few small white A blebs.
1120 5	1121 6	1 1	25	-		H, med.; some med. to large med. hard brn. C-S. incl. & stringers.
1121 6	1122 2	0 6	60	5		C-S, brn., hard; some irreg. H, med.; 1/2" gray A band at 1121.7'.
1122 2	1127 0	4 8	15	-		H, f.g. to med.; many irreg. small-large soft brn. C-S. incl. grading out down from 25% at top, 0.1' C-S. band at 1123.0'.

DUVAL SULPHUR & POTASH COMPANY

WELL NO. 18

CORE LITHOLOGY

PAGE NO. 4

DEPTH (Feet)				INTERVAL		ESTIM. %		DESCRIPTION
From		To		Feet		Shale	RA	
1127	0	1128	9	1	9	80	-	C-S., brn., hard; some irreg. H, med. to c.g.
1128	9	1130	0	1	1	35	1	H, med.; some med. to V. large soft brn. C-S. incl. decr. down from 60% at top to 16% at base; V. few small white A blebs.
		1130	0					T.D.
								LOGGED BY <u>B. F. McGuire</u>

